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ABSTRACT

This paper reviews research on best practices for preventing students with mild disabilities from dropping out of high school. Findings from the literature review indicate there is a consensus among the researchers that warning signs for school dropout among students with mild disabilities include: poor attendance, academic difficulties, behavioral problems, and social alienation. Most studies did show a positive correlation between particular interventions and one or several of these variables. Interventions described in all of the research-based studies showed some common components. First, all studies included monitoring of selected dependent variables. The studies that achieved the best results modified individual student interventions during the program based upon data collected through this on-going monitoring. Second, most studies included an element of relationship building which often involved home/school connections. In addition, an effort to build affiliation between the student and the school characterized the more successful studies. Often, though not always, peer tutoring was the instrument used to build this affiliation. Most gains shown throughout these studies, however, have been short-term. In four of the studies described, the gains were documented for less than 1 year. The paper concludes with recommendations for school administrators and teachers. (Contains 28 references.) (CR)

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Preventing High School Dropout Among Students with Mild Disabilities: A Literature Review

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Special education services have never been more available at any time in the history of the United States than they are right now. The Education for All Handicapped Children Act (PL 94142), which guarantees students with disabilities a free and appropriate basic public education until high school graduation or age 21, has been firmly entrenched in the American education system for over twenty-five years. In 1990 the Education of the Handicapped Act, later named the Individuals with Disabilities Education Act (IDEA), authorized further special education programming, emphasizing transition planning for youth with disabilities from age 14 until they exit school. These hard-won rights were crafted and implemented with one ultimate purpose: to prepare our children with disabilities for the most successful adulthood possible. Unfortunately, a staggering proportion of these children deny themselves the full benefit of these opportunities: they drop out of school. (Blackorby, Edgar & Kortering, 1991; Gajar, Goodman & McAfee, 1993; MacMillan, 1999; McCabe, Smergut & Margolis, 1992; Perry, Repetto & Schwartz, 1994; Repetto, Hankins & Schwartz, 1993; Sansone, 1987; Seidel & Vaughn, 1991; Sinclair, Christenson & Thurlow, 1994; Thurlow, Christenson, Sinclair, Eveto & Thorton, 1995; U.S. Department of Education, 1992; Wagner, 1991; Zigmond & Thorton, 1985)

The dropout problem is most pronounced among students who are considered "Mildly handicapped" (Blackorby, et al., 1991; Wagner, 1991; U.S. Department of Education, 1992; Repetto, et al., 1993; Gajar, et al., 1993; Sinclair et al., 1994) This category includes children with learning disabilities (LD), emotional disturbance (ED), or with mild mental retardation (EMR). In a retrospective study of mildly disabled students exiting a large metropolitan public high school between the years 1986 - 1988, Blackorby, et al. (1991) found that 66% left school without graduating. Data from the National Longitudinal Transition Study showed a barely more positive outcome. Only slightly over 55% of students with disabilities in the study completed school. Specifically, 49.5% of students with emotional disturbances, and 32.2% of students with learning disabilities dropped out of school. (U.S. Department of Education,

1992). In a follow-up study of 52 LD adolescents conducted in a metropolitan public high school by Levin, Zigmond and Birch (1985), just over half of the sample who were available for contact had dropped out of school after four years.

A study which is useful for estimating the magnitude of the problem as it relates to students with mild disabilities was conducted by Zigmond and Thorton (1985). They report a dropout rate of 54% for a sample of 105 LD students as compared with a rate of 33% for a sample of 118 age-matched non-learning disabled (NLD) adolescents who all came from the same large urban high school.

There seems to be little doubt that the dropout rate for mildly disabled students is alarmingly high. The true measure of the severity of the problem, however, lies in the evaluation of its consequences. In another component of the Zigmond and Thorton study, the authors compared employment rates of graduates and dropouts. In the LD sample, 74% of the graduates were employed, as compared with only 44% of the drop-outs. In the NLD group, 83% of the graduates were employed and only 50% of the non-graduates.

Hasazi, Gordon and Roe (1985) add an interesting perspective to these statistics. In a study of handicapped youth in nine Vermont school districts, they found that students from resource room programs, presumably those with mild disabilities, were more likely to be employed if they graduated from high school than if they dropped out. In contrast, for those youth whose disabilities were severe enough to warrant special class placements, employment status was not related to manner of exit. The authors hypothesized:

> One explanation might be that for those youth with relatively "invisible" handicaps, employers use the same criterion for hiring as they would for a nonhandicapped worker, minimally a graduation diploma. For students with more observable handicaps, the primary criterion may be ability to do the job, rather than a diploma per se. (p. 466) The implications are clear for students with mild disabilities: for this group, most employers will require a high school diploma. Those students who do not earn a high school diploma severely limit their chances of finding employment.

Unemployment is not the only negative consequence associated with dropping out of high school. In a research study, Sinclair et al. (1994) examined National Longitudinal Transition Study data to find that 73% of students with emotional and/or behavioral disorders who dropped out of high school were arrested within three to five years, as compared with 3 5% of those who graduated. Findings for students with learning disabilities showed that 62% of those who dropped out were arrested, as compared with 15% of those who graduated. The authors noted,

> Given that taxpayers spend approximately $51, 000 per year to incarcerate just one person compared to approximately $11,500 to educate one child with a disability, these statistics have tremendous implications for social service costs in our nation. (p. 2)

The dropout problem looms large. It has been called the "single most important fact about handicapped students in secondary schools today..." (p.20) (Sansone, 1987). Given the suggestion of Blackorby et al. (1991) that the differences between students with disabilities who graduate and those who drop out lie more in educational practices and environmental factors than individual differences, the question investigated in this literature review is, "What are best practices for preventing students with mild disabilities from dropping out of high school?"

Search Strategy

This paper is the product of two literature reviews, one conducted in 1996, and one conducted in 1998. The 1996 research began with the text, Secondary Schools and Beyond: Transition of Individuals with Mild Disabilities (Gajar et al., 1993). The section entitled "The Dropout Phenomenon" (p. 107-117) in the chapter "Issues in Academic Programming" helped to frame the problem and guide this research. The chapter was followed by and extensive reference section and each citation, which seemed to address specific issues of high school dropout for students with disabilities was investigated. Once articles, which were not based on empirical evidence, were eliminated, ten sources were identified.

The next procedure in the 1996 research was the review of two computer data bases: the Educational Resources Information Center (ERIC); and PsycINFO. In the ERIC search, the use of single key words, such as "Dropouts" yielded unwieldy and vague citation lists. The ERIC searches which yielded usable citations were as follows: "dropout prevention and disabilities"; "dropout prevention and special education"; "dropout programs and disabilities"; "dropouts and disabilities"; "attendance and disabilities"; and "potential dropouts and disabilities." These searches yielded six sources.

The PsycINFO database, while helpful, yielded only one usable source. The most fruitful searches conducted using this database were "high school dropouts and disabilities" and "school attendance and disabilities." For both databases, the search was limited to the United States. While all sources, regardless of year, were considered, the studies which centered on the topic of interest in this literature review were conducted in the mid 1980s and 1990s. This may be due in part to the increased interest in transition planning generated by legislation enacted during this time period.

After the reference sections of each primary sources were reviewed to uncover more sources, another secondary source was investigated to ensure that no relevant references were missed. This source was Secondary Special Education: A Guide to Promising Public School Programs (Warger & Weiner, eds., 1987). Once the reference list for Janet Sansone's chapter entitled "Issues and Trends in Secondary Education for Handicapped Youth" was checked, it was determined that the search was complete.

The warning of "a dearth of information on dropout prevention or intervention programs specifically designed for students with disabilities" (Gajar et al., 1993, p. 1 15) was validated through the 1996 literature search. Rather than establishing best practices for dropout prevention for mildly disabled students, the research addressed the more elementary question: What are the factors associated with dropping out of school for the mildly disabled population? The literature did contain some studies exploring such factors and a fair amount of advice on implications for program development for this group, but only a handful of empirically-based

evaluations of programs which took on the common problems leading to high school dropout for mildly disabled students.

The 1998 literature review began with a second look at the same two computer data bases used in the 1996 search, with the author's renewed hope that more recent research could actually identify practices proven to prevent high school dropout among students with disabilities. The searches which yielded usable citations in 1996 were reapplied. The only difference in selection criteria for articles was that all searches were limited to research from 1990 to 1998. In this search, the ERIC database yielded eight sources; the PsychINFO database yielded none. One more source was found in a new Council of Exceptional Children publication delivered to the home of the author with fortuitous timing.

In grappling with the problem of identifying a good conceptual model for understanding the school dropout problem, Sinclair et al. (1994) decried the models which did not tell what should be done to reduce the number of dropouts and those whose components were characterized by factors that schools have little control over, such as socioeconomic status of students. With similar sentiments, the author of this literature review chose research only if it dealt with one of two topics: school-related factors and experiences associated with school dropout for mildly, disabled students or programs proven to impact behaviors strongly linked to eventual school dropout for this population.

In order to add perspective to the dropout problem affecting students with mild disabilities, this literature review begins with an overview of current initiatives which are aimed at significantly reducing this problem for all students. A brief synopsis of a study concerning the dropout problem among general populations of students (Wehlage & Rutter, 1986) is also presented. This work, which focuses upon school-related factors in the dropout equation, was cited in almost every article about mildly disabled students that was reviewed. Though it is not definitive, it points to some variables often associated with school dropout for the general student population.

Literature Review

The dropout problem among general student populations. The practice of dropping out of school has had dire consequences for many students in general and special education. (Wagner, 1991; Sinclair et al., 1994; Kortering & Braziel, 1998) Currently, two initiatives at the federal level directly address this problem. One of six National Education Goals proposed by former President Bush and the Governors in 1990 states that, "By the year 2000, the high school graduation rate will increase to at least 90 percent." (U.S. Department of Education, 1992). Also promising are mandated reporting requirements to ascertain the extent of the dropout problem (Sinclair, 1994).

But what are the causes of the dropout problem? Arguing that educators have little control over a dropout's background characteristics, Wehlage and Rutter (1986) examined data from the High School and Beyond database for characteristics of a student's school experiences that may contribute to dropping out. The authors ran a multivariate discriminant analysis to determine the extent to which certain variables differentiate among three groups -- dropouts, stay-ins, and college-bound. The variable "expected school attainment" was by far the most powerful in discriminating among the three groups. When all variables relating to academic function were partialed out, new variables emerged as important predictors: truancy, discipline problems, lateness, and hours worked. In terms of student feelings influenced by school factors, the authors found that dropouts project a more external locus of control than their peers.

Factors which contribute to school dropout for the mildly disabled student. Much of the literature suggests that mildly disabled dropouts are more similar to their non-disabled peers than different. In a recent study, Kortering and Braziel (1998) used results from voluntary interviews to compare 35 youth with LD and 60 without who had dropped out of school in the same rural school district between 1993 and 1995. Results indicated that school suspension had dire consequences for both groups. Of the LD students who dropped out of school, 63% had been suspended from school while enrolled. An even higher proportion (72%) of the non-LD

students had experienced school suspensions during their high school careers. In another significant commonality, close to 60% of students in both groups were not involved in extracurricular school activities. Further findings indicate that approximately one third of the LD group and one fourth of the NLD group reported making plans to drop out of school at some time during their ninth grade year. In a disturbing aside, roughly 85% of students in both groups did not talk to anyone associated with the school about these plans.

Naomi Zigmond and Helen Thorton (1985) pointed to some more similarities between general education and LD dropouts in a follow-up study of students enrolled in an LD program (n=105) of a large urban school district. These students and the 118 students in the randomly selected control group (non-handicapped and non-gifted) were all ninth graders in the 1978-79 school year in the same district. Although the purpose of the follow-up study, which was conducted six years later, was to examine the graduation and employment outcomes for both groups of students (these outcomes were discussed in the rationale of this paper), Zigmond and Thorton also uncovered some significant commonalities among students who dropped out of school.

Upon follow-up, 60 LD and 61 NLD subjects were available for contact. School records of those who dropped out in this group indicated that most left school after ninth grade. Grade repetition had a devastating effect in both groups. Every NLD student and 90% of the LD students who repeated a high school grade left school before graduation. Repetition of grade nine in particular accounted for 58% of the LD drop-outs and 42% of the NLD drop-outs.

These findings on the strong correlation between ninth grade failure and high school dropout prompted another study (Sansone & Baker, 1990) which investigated the elements of school experiences that influence the likelihood that LD and NLD ninth-graders would drop out of school. The setting for the study was a racially mixed urban high school with a dropout rate of about 27%. Using a prospective case study methodology, the authors collected data from three sources: observation of meetings of a school dropout prevention committee; 17 semi-structured interviews with school personnel; and 14 interviews with ninth graders, including

five identified as LD and six identified as "at risk" for dropout due to excessive absenteeism and failing grades. Selection method for interview participants was not described in the research report. Data were analyzed concurrently through data reduction and conclusion drawing and verification.

A number of problems related to the ninth grade year were identified by the authors: inflexible class scheduling with heavy emphasis on required academic subjects; extracurricular activities which did not interest or involve ninth graders; a sense of inconsistent discipline; student feelings of confusion and isolation; poorly targeted and timed orientation activities; and school policies with a remedial rather than preventive approach to dealing with students' at-risk behavior.

Some of the problems uncovered in this study, in particular the theme of isolation and alienation, have been further explored in other research. Seidel and Vaughn (1991) launched an investigation to answer the question, "Do LD school dropouts report different feelings and attitudes regarding social alienation from classmates and from teachers than do LD nondropouts? The authors' theoretical framework was built upon prior dropout research on general populations which identifies student alienation as a factor associated with school dropout. LD students were chosen as subjects since the preponderance of research suggests that they have a tendency to receive low social ratings from their peers or to experience isolation in the regular classroom. For the purposes of this study, social alienation from teachers and classmates included "both the perception of how others feel about the individual and how the individual feels about others" (p. 152).

The sample for this research consisted of thirty-seven male LD subjects from the same 10th grade class in a large metropolitan school district whose form of school exit was either graduation or dropping out. The subjects were chosen through a combination random assignment/voluntary method. The researchers took care to invite only those students who met a stringent definition for learning disability. In addition, effort was made to partially control for

some already well-established correlates of school dropout, for example, more than one grade retention, and pregnancy.

Two surveys were constructed, focusing on feelings of social alienation toward teachers and classmates respectively. Each survey, which consisted of 26 short forced-choice questions on a four-point Likert scale, was pilot-tested for reliability and yielded reliability coefficients of .84 and .90 when tested with Cronback's coefficient alpha to measure internal consistency. Surveys were administered in the subjects' senior high school year using standardized procedures.

The researchers performed a T-test to determine the extent to which there were significant differences by group on the two surveys. Results suggested that there were significant group differences ($p < .05$), with LD dropouts indicating more feelings of social alienation from classmates and teachers than do LD nondropouts. The authors encourage future research to investigate the correlation of teacher and peer ratings- of the social behaviors and likability of LD students with LD students' perception of social alienation.

The work of McCabe, Smergut and Margolis (1992) serves to bolster Seidel and Vaughn's findings. In a survey of 78 mildly disabled special education students enrolled in an urban work readiness program, only feelings of belonging to the school culture differentiated among students with low, moderate, and high attendance rates. Interestingly, differences in responses to questions addressing students' perceptions of the relevance of school activities to job preparation were not significant enough to distinguish group membership.

Of the studies to date which examine the factors associated with school dropout for the mildly disabled population, perhaps the most comprehensive was conducted in 1991 by Mary Wagner, using data from the National Longitudinal Transition Study of Special Education Students (NLTS). The data which she studied were collected in 1987 from a sample of more than 8,000 youth representing the national population of secondary special education students who were ages 13 to 21 in the 1985-86 school year. The NLTS was exceptional in its longitudinal design. The students for whom data were gathered in 1987 were retained in the

study and follow-up data were collected about them in 1990. The NLTS was also extremely broad in scope, using parent interviews, school records, and school surveys to gather information on characteristics, experiences, and outcomes of youth with disabilities.

Assuming that a student's sense of disconnectedness would increase in proportion to school size, one would not be surprised by Wagner's findings in a bivariate analysis that students who attended schools with a population lower than 500 were significantly less likely to drop out those in schools with between 500 and 1,100 students (6% vs. 10%; $p<.05$). Negative effects of large student numbers were felt in the mainstreamed classes as well; here students were absent significantly more than those attending smaller classes (14 days vs. 11 days; $p<.05$). What may surprise, however, was the finding that special schools showed no significant difference from regular schools on any of the school performance measures analyzed by the NLTS. This finding held even when multivariate analyses were conducted which controlled for the confounding effects of the differences in disability severity in the two populations.

Providing support for the notion that "connecting" with someone from the school is important in preventing dropout, a multivariate analysis showed a statistically significant decrease in the rate of school dropout (3 percentage points; $p<.01$) for those students who were receiving help from a tutor, reader, interpreter, or counselor associated with the school. Additionally, occupational vocational training was significantly related both to lower absenteeism and a lower probability of dropping out in a multivariate analysis.

Though dropouts are not a homogeneous population (Sinclair, 1994), research results can be morphed into a "typical" mildly disabled school dropout who may not exist anywhere in reality, but who can teach us something nevertheless. We can imagine how the downward spiral to school dropout began for our composite student. He attended a large high school where his experience could best be described by feelings of disconnectedness to the school, its students and faculty. In ninth grade, the classes for which he was mainstreamed were relatively large and academic courses made up his entire schedule. During that year, this student experienced school suspension at least once. In general he encountered a discipline system

which was remedial rather than preventative. As a result, not long after entering the high school in ninth grade, the student began the slow process of disengagement by shunning extracurricular school activities and engaging in behaviors, such as failing classes and excessive absenteeism, which would eventually result in the requirement to repeat ninth grade, a year which was largely intolerable the first time.

Implications for program development. While best practices for dropout prevention programming for mildly disabled students have not yet been fully established, there are available insights on effective programming based on research to date.

In recent years, the state of Florida undertook an ambitious research study known as Project RETAIN (Retention in Education Technical Assistance and Information Network) whose goal was to assist school districts in that state through the identification and dissemination of effective practices that keep students with mild disabilities in school (Repetto et al., 1993; Perry et al., 1994). One part of the project attempted to establish a consensus among experts in the fields of transition, special education, and dropout prevention on effective practices with the mildly disabled population. (Repetto et al., 1993)

A three-round Delphi procedure was used to elicit the opinions of ten national experts in four domains -- organizational, programming, personnel, and social. The domains chosen were representative of the four areas common to effective programs for the general population of students at risk of dropping out, as proposed by Wehlage in 1983 (as cited in Repetto, 1993). A total of 180 effective practices were identified and grouped into ten thematic areas. The experts agreed that good programs to prevent students with mild disabilities from dropping out should be realistic, student-centered and flexible; provide wrap-around services; set limitations for which students and personnel are accountable; tie into real world demands; offer a place where students feel they belong and are wanted; encourage professional development; provide supportive administrators; foster intra-and interagency collaboration and cooperation; and view students holistically.

In another application of the Project RETAIN data, Perry et al. (1994) organized a database containing information on dropout rates, programming, and services extracted from a survey of sixty-seven Florida school districts. Seven districts were selected for site visits based primarily on their use -of promising practices in the ten thematic areas identified by the Delphi study. At each site, researchers interviewed dropout prevention and transition personnel to ascertain specific, effective program practices. Other information was gained through literature provided by the districts. The following concepts emerged as important to promoting attainment of graduation goals for students with disabilities:

> flexibility in both programming and administration; administrative support for creativity in program development; early identification - 4th grade or earlier; collaboration within the school and the community; integration of academics and vocational preparation based in real-world terms; community-based services, training, and placement; wrap-around services; family and student involvement in the planning process; and staff training in interdisciplinary collaboration (p. 49).

Many of the suggestions contained in the project RETAIN studies have been promoted by other researchers as well. Early intervention to forestall patterns of poor attendance and disengagement, changes at the classroom level to promote active academic involvement of students, and a more relevant curriculum, including occupationally oriented vocational education, have been proposed in earlier papers (Zigmond et al., 1985; McCabe, 1990; and Wagner, 1991).

Also embraced has been the concept of increased personal attention for ninth graders, both the forms of supportive counseling (Zigmond et al., 1985; McCabe, 1990) and special extra curricular activities for students in grade nine (Sansone & Baker, 1990; Seidel & Vaughn, 1991).

In Seidel and Vaughn's (1991) investigation into LD dropouts' feelings of social alienation, ideas for dropout programming understandably centered around improved socialization. They felt that social skills competencies should be included in the development

of students' IEPs and addressed through school programming as well. McCabe et al. (1992) shared these sentiments stating, "Training both regular and special education teachers to identify youngsters who feel out of place in school is an important, initial step in combating low-attendance and attrition" (p. 16). In a reaction to problems that the latter authors saw with the centralized alternative school special education program upon which their study was based, they also recommended placing nonstigmatizing special education programs in neighborhood schools.

Sinclair et al. (1994) urged schools to evaluate policies and practices based on holding power. Four school policies which were cited as commonly exclusionary are: rigid and overly punitive discipline procedures; grade retention policies which are comingled with attendance policies; a push for higher academic standards which is not accompanied by additional assistance to youth at risk of academic failure; and failure to establish home-school collaboration. They note further that the measure of a school's holding power should include not only dropout rate, but also the intermediate warning signs of school withdrawal such as absenteeism, tardiness, suspension, behavior referrals, and course failures.

Kortering et al. (1998) spoke up for the need for interventions which would help youth who had already dropped out to return to school. They noted, "These interventions must help youth to overcome their negative school history and related problems, while helping them to conform to the expectations of high school (p. 72).

How can any one program incorporate all of these interventions and policy recommendations? Architects of programs designed to promote the graduation of students with mild disabilities would be wise to heed Sinclair et al.'s (1994) caution,

> It is believed that a singular approach to preventing students from dropping out is insufficient; multicomponent strategies are needed. We know that youth drop out of school for various reasons and that school dropouts are a heterogeneous group. It is essential that strategies intended to keep students engaged in school meet the individualized needs of each learner in a timely fashion (p. 9).

Programs which address risk factors for dropout-prone mildly disabled students. The problem inherent to examining the success of dropout prevention programs is the length of time between the intervention, which can begin in seventh grade or even earlier, and its most important outcome -- graduation from high school (Thurlow, et al., 1995). Thus, all programs presented in this paper gauged their effectiveness based upon their impact on selected measurable factors shown to predict school dropout. Largely, researchers have agreed on these factors which include: poor attendance, low grades and course failures (Zigmond et al., 1985; Catterall, 1987; Lazerson, Foster, Brown & Hummel, 1988; Miller, Leinhardt & Zigmond, 1988; Bearden, Spencer & Moracco, 1989; Bryk & Thum, 1989; Sansone et al., 1990; Sinclair et al., 1991; McCabe, 1992; Buckner, 1993; Sinclair et al., 1994; Perry et al., 1994- Thurlow et al., 1995), behavioral referrals and suspensions (Catterall, 1987; Miller et al., 1988; Bryk et al., 1989; Buckner, 1993; Perry et al., 1994; Sinclair et al., 1994; Thurlow et al., 1995; Kortering et al., 1998), social skill incompetency (Seidel et al., 1991; McCabe, 1992; Buckner, 1993), full-time employment (Bearden, et al., 1989; McCabe, 1992, Sinclair et al., 1994), and patterns of school mobility (Sinclair, 1994; Thurlow et al., 1995).

In 1990, the Office of Special Education Programs (OSEP) granted five-year funding for three projects to develop early interventions to deter junior high school and middle school students with learning or emotional/behavioral disabilities from behaviors ultimately associated with school dropout (Sinclair et al., 1994). Together, these three projects have become known as the ABC programs: ALAS (Achievement for Latinos through Academic Success) in Los Angeles, the Belief Academy in Seattle, and Check & Connect in Minneapolis. The student population for all projects was drawn from urban school districts with large percentages of students in poverty and students from economically and culturally diverse backgrounds. Interventions used in all projects focused on the school setting, home-school collaboration, and community involvement.

Since personnel from the three projects met regularly and worked closely on goals and interventions, project findings were presented in a single report (Thurlow et al., 1995). Where

data from each project were comparable, the information was collapsed and reported in aggregate. Program effectiveness was judged based upon variance in selected patterns of behavior predictive of dropout. At the time when the final report was written, students involved in the three projects were just finishing their ninth grade year. Project students who received intervention for at least two years (treatment group) were compared with a control group of students with similar characteristics who did not receive intervention.

Favorable results discussed in the final report indicate the success of the project interventions. In terms of enrollment in any school setting, 86% of the treatment group were enrolled as compared with 75% of the control group. Percentages of course failure (letter grade of "F" or "NC" indicating no credit) for both English and math were significantly lower for the treatment group than for the control group. Consequently, the percentage of credits earned by the treatment group was more than one third higher than the percentage earned by the control group. The comparison of attendance rates between the groups, one of the strongest predictors of school dropout, showed that only 19% of project students were absent 25% or more of their ninth grade school year as compared with 43% of students in the control group. Problem behaviors were measured on a 100 point scale (100=severe problem behavior) on which teachers rated the behavior of students in both groups. Both special education and regular education teachers rated the behavior of project students more than 20 points lower, on the scale than they rated the behavior of students in the control group. Finally, both students and parents involved in the project reported a slightly higher level of overall satisfaction with school than their counter parts in the control group.

In analyzing outcomes, project personnel identified five specific intervention elements recognized in each project to be especially effective. First, personnel in all projects were careful to monitor students to target the occurrence of risk behaviors and to measure the effects of interventions. The indicators of risk included: tardiness, skipped classes, absenteeism, behavioral referrals, suspensions, and poor academic performance. Another key element of effective interventions was relationship building, which mostly focused on the adult-student

relationship and the effort to communicate interest in the students' lives outside the classroom. A third element focused upon building affiliation between the student and the school. Usually, this connection was promoted by the participation of the student in school-related activities, especially those which were service-related. Problem solving, through the use of specifically-taught skills, was a fourth common element used in these projects. The final element, called "persistence-plus", referred to the fact that when any project students reached a point of disengaging from school, project personnel stepped in with persistence (not allowing the student to give up on the ultimate goal of graduation), continuity (providing someone who knew the student's needs and who would be available year-round), and consistency (ensuring that the message was the same from all concerned adults).

In a similar study, though on a much smaller scale, Buckner (1993) implemented systematic interventions for eight months with a group of 18 LD seventh and eighth graders who were considered "at risk" for eventual school dropout due to failing grades and excessive absences. Students involved in this study came from an inner-city junior high school located on the southeast U.S. coast. The school was predominantly white with a 13% minority population. At least 34% of the enrolled students qualified for free or reduced lunch based upon their family income level.

Interventions consisted of: self-esteem and social skill training, career orientation, motivational techniques, peer tutoring/mentors, a parent telephone hotline, student progress reports, student tracking reports, and parent/teacher/student conferences. These interventions are reminiscent of the monitoring, relationship-building, and persistence which characterized the ABC projects (Thurlow et al., 1995). Buckner sought five student objectives: (1) passing grades in at least six of eight subjects, (2) an attendance profile that met district-based guidelines, (3) a satisfactory conduct record, (4) demonstration of appropriate social skills, and (5) heightened self-esteem. Only the last two objectives differ from those set in the ABC projects.

Buckner's work was met with success. In all cases, comparison of baseline and terminal data collected through grade reports, attendance reports, and guidance counselor reports indicated that the intervention objectives were realized. Expectations were exceeded at both the seventh and eighth grade levels in the areas of academics, attendance, and self esteem. In addition, the eighth grade conduct objective was exceeded.

Studies which have focused exclusively upon improving attendance rates of chronically truant or tardy special education students may also hold promise for redirecting such students on their path toward graduation from high school. Licht, Gard and Guardino (1991) conducted a study which seems to build directly on the suggestion of Zigmond and Thorton (1985) to design "an instructional program that emphasizes the importance of going to school every day and rewards students for attending persistently ... to teach, potential dropouts the habit of attending school" (p. 54). In a semi-rural southeastern high school, twenty first- and second-year mildly disabled students, paired on the basis of their attendance and tardiness, were randomly assigned to treatment and control groups. For 12 weeks, treatment students received social and tangible rewards for good attendance, and their parents were notified whenever they were absent. To prevent resentment, students in the control group were told that they would have the opportunity to earn the same prizes the following semester.

True to the authors' prediction, the effects of the treatment prevented the decline in attendance common as a school semester progresses. Specifically, the control group showed a significant linear decline in attendance and on-time behavior ($p < .05$), while students in the treatment group showed no significant decline in these variables ($p < .05$) over the treatment period. No post-treatment data were collected.

In another study (Hess, Rosenberg, & Levy, 1990) with a similar framework, an attempt was made to maintain gains in student attendance. With a large racially diverse urban middle school as the setting, twenty-six mildly to moderately disabled middle school students (nineteen male, seven female; twenty-four LD) were randomly assigned to treatment and control groups.

These students were selected based upon evidence of a previous history of attendance problems.

As in the study conducted by Licht et al. (1 991), the treatment group in this experiment had the opportunity to gain tangible rewards for good attendance. Weekly contingency contracting was the vehicle through which attendance goals and rewards were set for individual students. To help them maintain any gains in attendance, subjects in the treatment group participated in small group counseling sessions led by the school psychologist. These sessions focused on student-centered issues related to attendance.

In addition to truancy rates, dependent variables examined in this experiment were grade point average and rates of grade retention. Data were collected three times during the study, at ten-week intervals during pretreatment, treatment, and follow-up phases. To determine whether any significant differences existed, an analysis of variance with repeated measures was performed on each set of dependent data. Results showed no significant differences from pretreatment to follow-up for either the experimental or control students. It should be noted, however, that at the conclusion of the treatment period, the experimental group's mean rate of truancy decreased from 1.83 to .89, although these treatment effects failed to maintain at follow-up. Treatment had no effect on student grade point average but a significant ($p<.05$) positive effect on grade retention.

In light of these results, Hess et al. (1990) drew several conclusions. First, while the contingency contracting was effective in the short run, group counseling was not a strong enough force to maintain student gains in attendance. Second, relatively short-term periods of increased attendance rates may not greatly affect student grades. Third, increased rates of student attendance may have positively influenced those involved in the promotion/retention decision making process.

Similar positive results in attendance and on-time behavior were found in an experiment conducted in a large urban public school which was designed to study the effects of cross-age tutoring with LD junior high students identified as excessively truant and tardy (Lazerson,

Foster, & Brown, 1988). The 16 males assigned to the sample group were given instruction on tutoring techniques and paired each with a younger student with learning disabilities for tutoring sessions lasting a minimum of twenty minutes at least three times per week for six weeks.

At the end of the treatment period, the mean number of weekly truancies of all the tutors decreased from 2.5 to .05. Daily tardy periods decreased from 4 to 1.5 on average. This treatment was also proved to have a positive impact on subjects' locus of control, as measured through pre- and post-tests of the Bialer Locus of Control Scale. Results of a paired T-test indicated that there was a significant gain in the mean test score from pre-test to post-test ($p<.00001$). Results also indicated a positive correlation between consistent tutoring and gain scores. These results take on special significance when compared to dropout research with general populations that indicates a strong correlation between locus of control and school dropout (Wehlage & Rutter, 1986).

One research report did describe results of a dropout-prevention project for disabled students in terms of the ultimate measure -- its effect on school dropout rates for that population. Unfortunately, methodology was not described in the report, so results are difficult to determine. It has been included because it was the only one of its kind.

In 1983, an initiative was established through a partnership between the New Jersey State Department of Education and nine school districts to enhance the content of high-school programs and services for educationally handicapped pupils. One of the goals of this initiative was a decrease in the dropout rate for students participating in the project by at least 15 percentage points. Two districts were able to meet this criteria (McCabe, 1990).

In the 1987-88 school year, the final of three years of full project implementation, the Lakeland School District decreased the dropout rate to 11 percent for pupils involved in the project, a 25 percentage point improvement over the baseline year. This rural district included a handicapped student population overly-representative of emotionally disturbed and neurologically impaired students. These students, included in this study, lived in a district-run

residential facility. Sample size was not indicated, though total high school population was 1,400. The district identified the following as salient aspects of its intervention: the provision of individual, group, family and crisis counseling; and the provision of program management strategies such as low student/teacher ratio and a positive behavior management system.

The second successful district, Woodbridge Township School District, was classified as urban with 3,500 students in its three high schools. In 1985-86, the baseline year of the intervention, the district reported a 23 percent dropout rate for handicapped students. By the end of the third year of project implementation, the dropout rate for these students had decreased to 8 percent. Project personnel identified the primary cause for this decrease to be a change in the discipline system toward a system that "assists the student in learning appropriate classroom behaviorandassiststheteacherinleamingsuccessfulclassroomstrategies."(p.19) Other interventions included student involvement in activities that simulated experiences of the work world and a career/vocational advisory group which provided mentorship to assist students in learning about the expectations of the work world.

Conclusions

The glaring problem with the state of the current literature on dropout prevention for the mildly disabled student is that the validity of interventions has yet to be tested. The ultimate question -- Do these interventions keep these students in high school until graduation? -- remains unanswered. Until now, the nature of most research studies has precluded researchers from waiting the necessary six years to find this answer. Instead, researchers have had to be content with testing the effects of interventions on variables associated with high school dropout for this population.

Fortunately, these variables have been rather well established. There was a consensus among the researchers that warning signs for school dropout among mildly disabled students include: poor attendance, academic difficulties, behavioral problems, and social alienation. Most studies did show a positive correlation between particular interventions and one or several of these variables.

Interventions described in all of the research-based studies showed some common components. First, all studies included monitoring of selected dependent variables. The studies which achieved the best results modified individual student interventions during the program based upon data collected through this on-going monitoring. Second, most studies included an element of relationship building which often involved home/school connections. In addition, an effort to build affiliation between the student and the school characterized the more successful studies. Often, though not always, peer tutoring was the instrument used to build this affiliation.

So we are not completely in the dark; there are interventions which have been shown to help mildly disabled students remain on the path toward high school graduation. Most gains shown, however, have been short-term. In four of the studies described, the gains were documented for less than one year. All of these research designs were subject to the Hawthorne effect including the only one to incorporate a follow-up component (Hess et al., 1990).

Our best hope for the first reliable answer to the riddle of keeping mildly disabled students in high school until graduation lies with the final results of the ABC projects (Thurlow et al., 1995). Preliminary outcomes for these projects look extremely promising. At the time the project report was published, its target students were entering ninth grade. This September (1998), those students will be beginning their final year of high school.

In a telephone interview with Mary Sinclair (1998), a contributing author of the ABC project report, it was learned that follow-up data is being collected for all of these projects and that a final report is forthcoming. Ms. Sinclair also indicated that the Office of Special Education Programs (OSEP) has funded a replication project based on the ABC model. This project is currently in its second year of funding.

The OSEP website (http://www.ed.gov/offices/OSERS/OSEP/PGMS/ssp.html) indicates that there are currently a total of five new and sixteen continuation grants for youth with disabilities who have dropped out of school or are at risk of dropping out. of school. Technical assistance for these programs comes from the federally-funded Center to Support the

Achievement of World Class Outcomes for Students with Disabilities located at the University of Minnesota. Their three-fold purpose is "to assist States in implementing activities to improve outcomes for students with disabilities, to assist in the implementation of the requirements of Goals 2000 for students with disabilities, and to document States' efforts in doing so" (p. 2 of 4).

In another promising activity, OSEP is contributing funds to the National Longitudinal Study of Youth, which is following a cohort of American youth for 15 years. With this funding, OSEP is supporting data collection on special education students.

Hopefully, the results of OSEP's investments will pay off in the future in the form of outcome information on a wide range of students in a wide range of settings. Much of the current literature overrepresents LD students and urban settings. Even each of the three ABC projects used large urban school districts as their project settings. Although the final results of these projects will no doubt be illuminating, there will still be some problems with extending their conclusions to other populations until replication data from different settings are reported.

Another problem with literature included in this review is that it rarely defined the term dropout (e.g. are incarcerated youth included in that group?) and never described methods used to calculate a given dropout rate (Gajar et al., 1993). This problem was recognized on a national level when OSEP established a task force for the improvement of data on school exit status. As a result of this task force, there have been more compatible statistics on dropout rates and refinement of the OSEP exit categories used in reporting on students with disabilities (Sinclair, et al., 1994). Independent researchers on the same topic could better contribute to the research base by adopting these same standards.

One study of note (which did define the term dropout) showed preliminary findings which suggest that the vast research base on general education dropouts may be more applicable than once believed to the dropout problem among youth with LD. Kortering and Braziel (1998) compared LD and NLD dropouts to determine similarities in their backgrounds and reasons for dropping out of school. While the study presented several limitations, its

results, which show strong similarities between the two groups, are thought-provoking and have been foreshadowed by other research (Zigmond et al., 1985). The comparisons presented in these studies seem to suggest that while the same sorts of factors influence the LD and the NLD student to ultimately drop out of school, LD youth generally need less of a push.

It will take years, maybe decades of fine tuning before best practices for preventing dropout among mildly disabled students will be established. Until then, we can still draw a great deal of knowledge from current research. Dropout prevention for the mildly disabled student is everyone's job. Literature suggests that strategies that are effective dropout prevention translate into general practices associated with running a quality school and an effective classroom.

School administrators should ensure that discipline policies are fair and effective, promote extracurricular activities for all grades and ability levels, examine the merits of student grade retention policies, support more accommodating class scheduling particularly for ninth graders, communicate clearly and often to students about school rules and expectations, and advocate for a relevant curriculum.

Teachers have perhaps the most important role of all. They should intervene early for students who have attendance problems, promote active engagement of students in the classroom, address students' social skill competencies in the LEP and in the classroom, and help those students who seem to feel alienated from classmates or other teachers.

To some extent, the student can be looked upon as a consumer. If the product is not satisfactory, the consumer may understandably move on. Of course, the analogy is not perfect. Educators must find a balance between providing students a school experience accommodating enough to keep them in school until graduation, but filled with enough educational challenges to keep the experience worthwhile.

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